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AUTHOR Wendel, Frederick C.; And Others
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ABSTRACT

Findings of a study that examined the relationship between aspiring educational administrators' graduate school admissions test performances and their assessed skill dimensions are presented in this paper. Specifically, the study sought to determine the relationship between graduate admissions test scores, as measured by the Miller Analogies Test (MAT) and the Graduate Record Examination (GRE), and the applicants' skill dimensions, as measured by the Assessment Center Project of the National Association of Secondary School Principals (NASSP). The assessment enter obtained samples of participants' job-related behaviors to predict their administrative aptitudes. Methodology involved analysis of the admissions test and assessment scores of 121 participants. Findings indicate that admissions test score did not reflect the applicants' job-related behaviors, though those with high admissions test scores were almost twice as likely to receive high on-the-job ratings. The recommendation is made to develop a standardized, national graduate entrance test to assess analytic ability and administrative aptitude. One table is included. (Contains 25 references.) (LMI)

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Do Graduate School Admissions Tests Relate to Assessment Center Dimensions?

by

Frederick C. Wendel

Professor of Educational Administration

Ronald G. Joekel

Chairperson and Professor of Educational Administration

Department of Educational Administration

1204 Seaton Hall

University of Nebraska-Lincoln

Lincoln, NE 68588-0638

(402) 472-3726

and

Candace W. Spurzem

Assistant Principal

Millard Public Schools

15650 Howard Street

Omaha, NE 68118

(402) 691-1470

Running Head: MAT/GRE/Assessment

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Do Graduate School Admissions Tests Relate to Assessment Center Dimensions?

The leadership required of building administrators is well documented in the research on effective schools. Confirmation of the importance of principals has fostered an examination of their preparation (Leithwood, 1984), selection (Zakariya, 1983), and role (Principals for Our Changing Schools, 1990). Educators have called for a review of preparation programs for principals (Performance-Based Preparation, 1985; Leaders for America's Schools, 1987), developed alternate and promising selection practices (Baltzell & Dentler, 1983), and sought ways to improve those programs and practices (Cornett, 1983; Manasse, 1983; & Shilling, 1986).

The National Association of Elementary School Principals and the National Association of Secondary School Principals jointly sponsored the National Commission for the Principalship to explore development of a national certification process. The members of the National Commission have called for revamping of traditional preparation and state certification programs.

The two Associations agree that preparation programs should reflect primarily the real world of the operating school. Earlier theory-based

> constructs have become largely obsolescent, overcome by the flood of change engulfing schools. In their place new programs reflecting inductive analysis, realities of the workplace, and attention to the programs and operations of schools must be designed (Thomson, 1990, p. 1).

Principals are key players in the success of their schools, as Sweeney (1982) reported in a synthesis of the research on effective schools. In eight studies, Sweeney found a positive correlation between leadership behavior and school outcomes. School effectiveness was increased by principals who emphasized achievement, set instructional strategies, provided an orderly school atmosphere, frequently evaluated student progress, coordinated instruction, and supported teachers. These findings corroborate the importance of valid selection procedures for building administrators at the university admissions level, as well as at time of employment.

Members of the National Policy Board of Educational Administration (1989) proposed the following sweeping changes in administrator preparation programs:

> The National Policy Board recommends that entrance standards to administrator preparation programs be dramatically raised to ensure that all candidates possess strong analytic ability, high

administrative potential, and demonstrated success in teaching including:

- Assessment of analytic ability and administrative aptitude by a standardized national test, with admission to preparation programs limited to individuals scoring in the top quartile, and
- Assessment of teaching excellence by state licensure, a master's degree in teaching, and evidence of successful teaching in a classroom setting.

Administrator preparation programs must deal forcefully with the problems of low-quality applicants and lax selection by dramatically raising entrance standards. Only those individuals with strong analytic ability and demonstrated excellence in teaching should be admitted to administrator preparation.

Toward this end, we (The National Policy Board) propose that a standard national examination be developed for prospective educational administrators, similar to those required for admission to other professional programs (MCAT, GMAT, or LSAT). The examination will evaluate candidates' verbal, mathematical and reasoning abilities, as well as other skills indicative of

> administrative potential. Only those candidates who score well above average--the top quartile is a reasonable cutoff--will be eligible for admission. (Improving the Preparation of School Administrators, 1989, p. 14).

Traditionally, students pursuing a career in administration are required to have at least two years of teaching experience (Burks, 1988). The requirement of teaching experience, however, does not necessarily lead to selective admissions.

> Many graduate programs adhere to an unspoken pact that any teacher, even an unsuccessful teacher with marginal academic ability, has an inalienable right to study for an administrator's certificate, and persistent candidates are almost always admitted. The end result is a glut of certificate holders with dubious qualifications who cannot find school administrative jobs. (Improving the Preparation of School Administrators, 1989, p. 10).

For admission to a graduate program, students are often required to take a standardized entrance examination, such as the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE). Results from these tests are weighted differently, depending upon the institution and department (Oltman & Hartnett, 1985). Nor are admissions standards rigorously administered, as

the average GRE scores of educational administration students in 1985-86 ranked ninety-first among 94 intended majors of graduate students (Griffiths, Stout, & Forsyth, 1988, p. 290). Additional requirements, that vary from institution to institution, are likely to include the submission of transcripts of previous coursework, autobiographical sketches, statements of career goals, letters of recommendation, and samples of writing.

Upon completion of an advanced degree, prospective administrators compete for administrative positions. Applicants are generally required by hiring officials to submit letters of application, resumes, placement papers, and completed application forms. Hiring officials may also require applicants to submit transcripts, complete pencil-and-paper tests and inventories, write position papers on school-related topics, engage in interviews--sometimes structured ones, or complete an internship (Baltzell & Dentler, 1983).

Information about candidates for graduate school and administrative jobs can be gathered by means other than paper-and-pencil tests, interviews, and traditional paper-screening measures. In addition to the use of graduate school admissions examinations such as the Miller Analogies Test (MAT) and the Graduate Record Examination (GRE), participation in an assessment center

may provide helpful information. In some states, applicants for initial administrative certificates must participate in an assessment center (Wendel, Yusten, & Gappa, 1988).

Paper-and-pencil tests provide "signs" of individuals' abilities whereas simulation exercises extract "samples" of actual job-related behaviors. Persons who score highly on a test of verbal ability may or may not be good writers or speakers, but their skills in writing and speaking can be authentically assessed by having them write and speak in simulations.

Purpose

The purpose of this study was to determine the relationship between (a) graduate admissions test scores from the Miller Analogies Test (MAT) and the verbal and quantitative scores of the Graduate Record Examination (GRE) and (b) skill dimensions as measured by the Assessment Center Project of the National Association of Secondary School Principals, the leading assessment center program for principals. Participants in the study completed one or both of the graduate admissions tests and participated in an assessment center after admission to a graduate degree program in Educational Administration.

Background and Context

The MAT and the GRE

For entry into a post-baccalaureate program, students are frequently required to take an admissions test. In the field of education, generally either the Miller Analogies Test (MAT) or the Graduate Record Examination (GRE) is required. The MAT is a test of verbal reasoning, and the GRE is an aptitude test. Both are presumed to be predictors of academic success.

The Miller Analogies Test. The MAT is a 100 item test of information and verbal reasoning ability. The analogies use information from a number of subject areas including contemporary culture, the humanities, social sciences, natural sciences, mathematics, and linguistics. Reasoning ability is tested through recognition of the relationships among the terms of an analogy (Cash, 1979).

The Graduate Record Examination. The GRE is an aptitude test given several times a year by The Educational Testing Service of Princeton, New Jersey. The basic GRE takes 3 1/2 hours to complete. The reliability coefficient for Education is .93 (GRE Guide, 1974). The GRE consists of multiple choice questions on numerous topics. The resulting scores are divided into two areas--verbal and quantitative. The verbal portion covers verbal reasoning and reading comprehension. The

GRE verbal ability scores have "tended to be more valid in such verbally oriented disciplines as English and education than in scientific fields" (GRE Guide, 1974, p. 13). In the quantitative section, there are questions over arithmetic reasoning, basic algebra, geometry, and the interpretation of data. An overall score is also given.

The predictive validity of these tests for academic and career success is debated (Thornell & McCoy, 1985). Payne, Wells and Clarke (1971) contended that the GRE scores, with a range of validity coefficients between .08 and 0.47, were rather unpredictable. Thacker and Williams (1974) did a review of literature on the GRE and concluded that the validity of the GRE to predict success in graduate students was very doubtful.

Oltman and Hartnett (1985) studied the use of the Graduate Record Examinations in programs across the country to determine if there was any discernible trend in the usage of the GREs. They found great variability in requirement for the exams and also differences in the importance given to the scores. In most departments, test scores from the GRE ranked below undergraduate performance and recommendations in determining admissions. Many departments reported that they used the test scores as compensation for otherwise weak

credentials. A second use was non-admissions related, e.g., in awarding financial aid.

NASSP Assessment Center

An assessment center is a psychometric procedure that employs multiple activities, including individual and group exercises, to develop a behavior profile on candidates seeking entry- or middle-level management positions. An assessment center is a process that uses standardized procedures, particularly simulation exercises, to obtain samples of actual behaviors related to on-the-job duties. These exercises are good simulations of real life occurrences (Landholm, 1986). Trained assessors observe, record, and prepare written reports on participants' behaviors in exercises. Leaderless group discussions, in-baskets, fact-finding activities, and structured interviews are commonly used exercises. Assessors pool their observations in consensus discussions and rate each participant's level of skill on the targeted dimensions. A final report, based upon the consensus discussion, is written, and the director of the center gives the written and oral feedback to each participant.

The nature of a principal's job comprises the bases for the skill dimensions, the nature of the exercises, and the expected behaviors observed and rated by the assessors. Generalized skills that are important for

the principalship comprise the 12 skill dimensions: Problem Analysis, Judgment, Organizational Ability, Decisiveness, Leadership, Sensitivity, Stress Tolerance, Oral Communication, Written Communication, Range of Interests, Personal Motivation, and Educational Values (Hersey, 1982).

Schmitt et al. (1982) found that (a) ratings were psychometrically adequate for both internal and content validity, (b) the measurements were related to job performance and school climate, and (c) the ratings were a valid predictor of job success. In a subsequent study, Schmitt and Cohen reported that "90 percent of the principals with outstanding placement recommendations were performing at a 'high' level on the job (when rated by their supervisors and teachers). For principals with lower placement recommendations, smaller percentages [48%] were performing at a high level" (Schmitt & Cohen, 1990, 53, 54). The validation studies of Schmitt and his associates lend credence to the benefits of obtaining "samples" of job-related behaviors through assessment centers in the selection of principals.

Findings

The sample for this study consisted of 121 subjects. All had participated voluntarily in an assessment center. Of these 121 subjects, 91 had taken

the MAT, 33 had taken the GRE, and 3 had taken both examinations.

Pearson Product Moment Correlation Coefficients were computed for the scores from the MAT, GRE Verbal (GRE-V), and GRE Quantitative (GRE-Q) with the scores of the 12 skill dimensions from NASSP assessment centers. No statistically significant correlations existed at the .01 level. The correlations ranged from -.05 for GRE Quantitative and Personal Motivation to .23 between the MAT and Leadership. The relationships between the MAT and the GRE Verbal with Leadership, .23 and .21 respectively, were the strongest for two tests with a skill dimension. The correlations between the GRE-V and Oral Communication (.22) and between the GRE-V and Written Communication (.22) were the strongest for one test with two dimensions.

Not surprisingly, there were extremely small, negative correlations in instances where no apparent conceptual linkage prevails. For example, between both GRE scores, i.e., Verbal and Quantitative, and the skill dimensions of Decisiveness, Range of Interests, and Personal Motivation, all the correlations were slightly negative; of these negative correlations, the largest was only -.05.

The Miller Analogies Test generally had extremely low, positive correlations (.02 with Problem Analysis to

.23 with Leadership) with 11 dimensions and one negative (-.02) with Educational Values.

The GRE-Verbal correlations with the skill dimensions were extremely low also and were slightly negative with four dimensions: Judgment, Decisiveness, Range of Interests, and Personal Motivation. The highest correlations of the GRE-V were with Written Communication (.22), Oral Communication (.22), and Leadership (.21).

Insert Table 1 about here

The highest correlation of the GRE-Quantitative with any skill dimension was with Sensitivity (.16), a combination that underscores the separateness of the measures, while the GRE-V with Sensitivity was .03. Extremely low negative correlations of the GRE-Q were with Written Communication (-.01), Decisiveness (-.03), Range of Interests (-.04), and Personal Motivation (-.05).

Summary

Test scores for graduate admissions, as measured by the Miller Analogies Test and the Graduate Record Examination, had extremely low relationships with 121 participants' scores in the 12 skill dimensions from the NASSP Assessment Center. The low correlations did

not link the graduate admissions tests with the NASSP assessment center dimensions. Thus the "signs" of reasoning and aptitude from the MAT and GRE did not necessarily translate into "samples" of job-related behaviors.

Members of admissions committees of departments of educational administration should expect little insight into applicants' job-related behaviors from admissions tests such as the Miller Analogies Test or the Graduate Record Examinations. Likewise, hiring officials would also have little knowledge of job-related behaviors of graduates of administrator preparation programs from MAT and GRE admissions test scores although participants who get "high" assessment ratings are almost twice as likely to get "high" on-the-job ratings as those who get "low" ratings in assessment centers.

The recommendation of the National Policy Board that a standardized national test be used to assess analytic ability and administrative aptitude is an admirable goal. Preparation and validation of such a test, comparable to the MCAT or LSAT, will require considerable expenditures by test developers. Research on the principalship shows the skill areas that are prominent in effective school administrators are leadership, judgment, sensitivity, organizational ability, and problem analysis. The development of a

standardized national test to measure such complex behaviors would be a significant achievement. Whether one test could assess analytic ability and administrative aptitude is worth pursuing. For the moment, features of assessment centers that should not be overlooked are their validity, objectivity, and fairness in the measurement of job-related behaviors.

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Table 1

Correlations Between Scores of Assessment Center Skill Dimensions with the Miller Analogies Test and the Graduate Record Examination--Verbal and Quantitative

Skill Dimension	MAT	GRE Verbal	GRE Quantitative
Problem Analysis	.02	.12	.07
Judgment	.06	-.05	.02
Organizational Ability	.06	.13	.06
Decisiveness	.17	-.05	-.03
Leadership	.23	.21	.08
Sensitivity	.15	.03	.16
Stress Tolerance	.06	.01	.07
Oral Communication	.13	.22	.01
Written Communication	.17	.22	-.01
Range of Interests	.15	-.01	-.04
Personal Motivation	.11	-.05	-.05
Educational Values	-.02	.19	.04